

DRAFT PERMIT CN-000030
DESERT MINERAL MINING LLC
SMALL MINERAL CYANIDATION
PROCESSING FACILITY

I. LEGAL AUTHORITY

Title 39, Chapter 1, Idaho Code, grants the authority to the Board of Environmental Quality to adopt rules, regulations and standards to protect the environment and the health of the State; grants authority to the Director to issue permits as prescribed by law and by the rules of the Board; and requires Department of Environmental Quality (Department) review and approval of plans and specifications for all new facilities, or for modifications or expansions to existing facilities, that process ore by cyanidation; and authorizes the Director to require a reasonable fee for processing permit applications and to require financial assurance for permanent closure.

II. PERMIT AUTHORIZATION

- A. This permit authorizes Desert Mineral Mining LLC (DMM) to construct and operate the Centennial Mine Processing Facility (Facility), a Small Mineral Cyanidation Processing Facility, for the purpose of processing, neutralizing and disposing of no more than 120,000 tons of processed ore for the life of the project in accordance with the terms and conditions set forth in this permit.
- B. This permit is effective upon signature by the Director of the Department.
- C. This permit shall be effective for a period of no longer than five years or until the occurrence of any of the following whichever occurs first: (1) permanent closure is completed pursuant to this permit; (2) the lifetime allotment of 120,000 tons of processed ore is processed; (3) the Facility no longer qualifies as a small mineral processing facility; (4) the permittee concurrently holds more than one permit for a small mineral processing facility, where the facilities are located within ten miles of each other; (5) Facility operations must cease because of a violation of the Rules for Ore Processing by Cyanidation (Ore Processing Rules), IDAPA 58.01.13, Water Quality Standards and Wastewater Treatment Requirements (Water Quality Standards), IDAPA 58.01.02, or adverse impacts to the beneficial uses of the waters of the state; or (6) this permit is revoked or modified.
- D. This permit does not provide authorization from any other federal, state or local entity, and this permit does not relieve DMM, or any of its successors or assigns, from the responsibility to comply with other applicable federal, state or local laws, rules, standards, or ordinances.

III. GENERAL SITE INFORMATION

A. Name, Location, and Mailing Address of the Facility

Centennial Mine Processing Facility
Section 13, Township 2 North, Range 4 East
Elmore County, Idaho

B. Name, Mailing Address, and Phone Number of DMM and Registered Agent

Mr. Dan Terzo
Desert Mineral Mining, LLC
Laguna Pacific Partners, LLC
327 Aster Street
Laguna Beach, California 92651
(949) 464-9128 (office)
(714) 403-7858 (cell)
(949) 464-9502 (fax)

Gardener Skinner Jr.- Registered Agent
423 Tyrell Lane
Boise, Idaho 83706
Desert Mineral Mining, LLC
(208) 344-8035

C. Land Ownership Status of the Facility

Private Patented Mining Claims

D. Legal Structure and Residence of Desert Mineral Mining, LLC

DMM is a Nevada Limited Liability Corporation.

Laguna Pacific Partners, LLC
327 Aster Street
Laguna Beach, California 92651

IV. SITE LOCATION AND TOPOGRAPHIC MAPS

Insert Figure 1 and 2 from Application

V. DEFINITIONS

A. Beneficial Use

Any of the various uses which may be made of the surface and/or ground water of the State including, but not limited to, domestic water supplies, industrial water supplies, agricultural water supplies, navigation, recreation in and on the water, wildlife habitat, and aesthetics. Beneficial uses for specific stream segments are established in the Water Quality Standards.

B. Cyanidation

A method of extracting metals from ores by treatment with a cyanide solution, which is the primary leaching agent for extraction.

C. Deleterious materials

Any nontoxic substance which may cause the tainting of edible species of fish, taste and odors in drinking water supplies, or the reduction of the usability of water without causing physical injury to water users or aquatic and terrestrial organisms.

D. Department

The Idaho Department of Environmental Quality

E. Director

The Director of the Department or her designee.

F. Discharge

When used without qualification, the release of process water, process-contaminated water, chemicals, or other potential pollutants into the surface waters and/or ground waters of the State.

G. Facility

Those areas shown in Figure 4 of the Application including but not limited to: the Milling and Ore Processing building and equipment, Assay Laboratory, Chemical Storage Building/Containers, Generator Building, Portable Crusher, Ore Stockpile, Mill Tailings Impoundment, Maintenance and Supplies Building, Office Building, domestic housing, and Housing Security Lights, water storage, and all monitoring wells.

H. Free Cyanide

The sum of cyanide present as undissociated molecular hydrogen cyanide (HCN) and the cyanide ion (CN-) expressed as cyanide (CN).

I. Ground water

Subsurface water comprising the zone of saturation including perched ground water.

J. Hazardous materials

For the purpose of this permit, the operator shall identify, characterize, handle and dispose of all "hazardous materials and wastes" consistent with the Rules and Standards for Hazardous Waste, IDAPA 58.01.05.

K. Impoundment

That part of the ore processing and waste disposal facilities, to which neutralized spent ore and treated process waste water will be discharged for final disposition, is referred to as the tailings "impoundment" and may be seen in Figures 4, 4A and 6 of DMM's permit application package.

L. Land Application

A process or activity involving application of process water, process-contaminated water, wastewater, surface water, or semi-liquid material to the land for the purpose of disposal, pollutant removal, or ground water recharge.

M. Liner

A continuous layer of natural or man-made materials beneath and, if applicable, on the sides of a surface impoundment or leach pad which restricts the downward and lateral escape of liquids.

N. Permanent Closure

Final cessation of operations, decommissioning, demolition and disposal of all facilities and materials according to an approved "Permanent Closure Plan" as provided for in Section XII of this permit.

O. Permittee

The person in whose name this permit is issued and who is to be the principal party responsible for compliance with the applicable law and permit conditions. For the purposes of this permit, the permittee is DMM.

P. Pollutant

Chemicals, chemical waste, process water, process-contaminated water, biological materials, radioactive materials, or other materials which, when discharged cause or contribute adverse effects to any beneficial use.

Q. Seasonal Closure

Annual cessation of operations that is due to weather.

R. Small Mineral Processing Facility

A facility which chemically processes less than 36,500 tons of ore per year and no more than 120,000 tons of ore for the life of the project at any one permitted site.

S. Spent Ore

Mill tailings and wastewater which are neutralized according to the permit specifications and discharged from the ore processing facility to the tailings impoundment for final disposal according to the operating and permanent closure plans.

T. State

The state of Idaho.

U. Temporary Closure

Any cessation of operations exceeding 30 days, other than seasonal or permanent.

V. Treatment

Any method, technique or process, including neutralization, designed to change the physical, chemical, or biological character or composition of a waste for the purpose of disposal.

W. Waters of the State

All the accumulations of water, surface and underground, natural and artificial, public or private, or parts thereof which are wholly or partially within, which flow through or border upon the State.

X. Wastewater

Any combination of liquid or water and pollutants from activities and processes occurring in dwellings, commercial buildings, industrial plants, institutions and other establishments, together with any ground water, surface water, and storm water that may be present; liquid or water that is chemically, biologically, physically or rationally identifiable as containing blackwater, grey water or commercial or industrial pollutants; and sewage.

Y. Weak Acid Dissociable Cyanide

The sum of free cyanide and all but the most refractory metal-cyanide complexes, such as the iron, gold, cobalt, and platinum cyanides.

VI. OPERATING PLAN

A. Facility Overview

1. The Facility may process up to but no more than 100 tons per day (tpd) or 36,500 tons per year (tpy) of ore using totally-contained Thompson Mill cyanidation milling equipment and a building which will be located on the patented lands as described on Figure 2 of the Application. The Facility includes all primary and secondary (ancillary) facilities listed in Figures 4 and 4A, and described in the Application. The Facility may operate up to five years from the date of permit issuance. The Facility may process no more than 120,000 tons of ore for the life of the project.
2. The Facility's processing operations (processing operations) shall include an internal vibratory mill employing two grinding units and will be powered by a diesel generator (65 kilowatt with 35 kilowatt back-up). The processing operations shall include two hydrocyclones, a cyanide dissolution retention tower, and an activated carbon filter process involving five columns.
3. The processing operations shall be located in a secondary containment area process building comprised of concrete floors and stemmed walls as seen in Figures 4, 5 and 6 of the Application. The internal vibratory mill shall be mounted on two 16-foot double axle trailers. All barren, pregnant and makeup solutions shall be contained in internal tankage until appropriately neutralized and released to the tailings impoundment (impoundment). Trailers shall also be used for office, laboratory, and temporary housing.
4. Gold-loaded carbon columns shall be stripped in an alcohol liquor tank. Gold shall be plated onto steel wool by electrowinning at the Facility. The plated steel wool shall be melted onto separate steel from the gold.
5. The crushing process shall include the following: vibrating grizzly sorting the feed to jaw crusher, two conveyors, and a surge pipe with variable speed screw feed to fine crushed ore bin with vibrating feeder.
6. The crushing system shall be portable and crush to 3/8 inch minus for optimum milling performance. DMM shall appropriate all relevant permits subject to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.
7. DMM shall operate a U. S. Environmental Protection Agency (EPA)-approved laboratory and assay lab at the Facility. The lab shall have the

capability to analyze for free cyanide as an immediate indicator for weak acid dissociable (WAD) concentrations at the Facility. Other onsite capabilities shall include pH, conductivity, and turbidity. The lab shall be used for all compliance related analytical testing. At the permit's effective date, DMM will be using Analytical Laboratories, Inc. in Boise, Idaho.

B. Neutralization and Discharge of Spent Ore and Process Wastewater

1. Prior to discharge of spent ore or wastewater into the impoundment, the spent ore and wastewater shall be treated and neutralized per the Ore Processing Rules with sodium hypochlorite. Results of a waste characterization / toxicity analysis shall be provided to the Department as part of the initial plant commissioning process and the permit reporting requirements.
2. Discharge of process wastewaters through land application, non-point source or point source discharges, whether neutralized or not neutralized, is not authorized by this permit.
3. A Phase 1, 36,500 ton capacity, impoundment has been designed and approved for the Facility. The design engineer certified that the impoundment is designed to contain the maximum expected normal operating water balance plus the 100 year winter precipitation (17.23 inches), plus the 100-year 24-hour storm event (2.8 inches), and have two feet of freeboard.
4. The perimeter berm of the impoundment shall be constructed of fill excavated from the interior of the impoundment if the material meets the engineering design and construction specifications per Appendix 1 – "Specifications for CENTENNIAL MINE PROCESSING FACILITY SMALL SCALE TAILINGS STORAGE FACILITY (Rothberg Tamburini Winsor, 2004) of the Application.
5. The tailings impoundment must be underlain by a leak detection/leak collection system. An Idaho Registered Professional Engineer with expertise in leak detection and collection systems, impoundments shall supervise all designs and construction of the leak detection and leak collection system, and provide Quality Assurance and Quality Control that the materials, placement of materials and construction meet or exceed the manufacturer's specifications and the design and construction specifications.
6. The impoundment shall be lined with 60-mil High Density Polyethylene (HDPE) geomembrane over a prepared sandy base in accordance with the Ore Processing Rules. The base shall be prepared in place by

scarification, moisture conditioning and compaction, with removal of oversized particles. If suitable material is not present for the impoundment foundation, a heavy-duty non-woven geotextile fabric shall be placed over the prepared subgrade to protect the lining system. According to Appendix 1, "Detailed Technical Specifications for Constructing Tailings Facility" (Rothberg Tamburini Winsor), geomembrane liner must be installed during dry weather and between ambient temperatures of 32 degrees Fahrenheit and 105 degrees Fahrenheit. It may not be placed during periods of moisture or precipitation, or in the presence of excessive wind.

7. An Idaho Registered Professional Engineer with expertise in impoundments and liners shall supervise all construction of the impoundment and provide Quality Assurance and Quality Control that the materials, placement of materials and construction meet or exceed all manufacturer's specifications and all design and construction specifications provided in the Application Appendix 1 - "Specifications for CENTENNIAL MINE PROCESSING FACILITY SMALL SCALE TAILINGS STORAGE FACILITY (Rothberg Tamburini Winsor, 2004).
8. Pursuant to the Ore Processing Rules, IDAPA 58.01.13.500.03, and the Idaho Environmental Protection and Health Act (EPHA) Idaho Code §§ 39-118A, an Idaho Registered Professional Engineer shall, within 30 days of construction completion, prepare, sign and stamp "As-Built Plans and Specifications" and a Final Construction report for the impoundment that ensures that the materials, placement of materials and construction meet or exceed all manufacturers' specifications and all design and construction specifications provided in the Application. These "As-Built Plans and Specifications" and/or the construction report shall be submitted to the Department and shall be subject to Department review, comments and approvals.
9. Neutralized tailings and treated wastewater (containing < 0.2 ppm WAD cyanide) shall be discharged into the impoundment from multiple spigot points around the perimeter. The details of which must be submitted to the Department in the "As-Built Plans and Specifications". The tailings shall be placed in lifts, not to exceed two feet. The lifts shall be allowed to aerate for a period of no less than one week to allow for maximum volatilization and ultraviolet degradation of cyanide before a subsequent lift can be placed over its predecessor. A minimum of two feet of freeboard shall be maintained in the impoundment at all times.
10. During each week of the initial 30-day startup period, DMM shall analyze one spent ore sample for Toxicity Characteristics Leaching Potential (TCLP) constituents, and submit the results to the Department. Thereafter, DMM will collect one sample monthly and perform and report the TCLP

analysis to the Department within 20 days of receiving the laboratory results.

11. DMM must sample and analyze the all process wastewater prior to release to the Tailings Impoundment. Analysis of the samples must be done for nitrate (as $\text{NO}_2 + \text{NO}_3$) and WAD cyanide concentrations, as well as key indicator parameters particularly pH, hardness, Total Suspended Solids (TSS), sulfate, arsenic, iron, copper and silver.
12. DMM may propose expansion of the impoundment to double the tailings storage capacity. Such a proposal must be accompanied by a formal request to the Department for modification of Permit # CN-000030, which will be processed according to the Ore Processing Rules, IDAPA 58.01.13.750 as set forth in this permit.

C. Ore Processing Chemicals

1. Transportation, use, handling and ultimate disposition of all chemicals including ore processing chemicals, maintenance fluids and other deleterious materials shall be consistent with the Materials Safety Data Sheets (MSDS) contained in Appendix 2 of the Application. The MSDS must be kept current and maintained in a ready and useful format at the Facility.
2. Chemical reagents for the processing operations shall be stored in a separate building on a lined, concrete surface. The concrete surface must have stemmed walls around the entire perimeter of the building. Water seals must be used at all seams in the concrete. All chemicals shall be stored according to chemical characteristics and appropriate federal regulations and separated as appropriate (i.e., sodium cyanide and nitric acid), which each area's primary containment having sufficient volume to contain the volume of the largest container (box, drum etc.) stored in that area. Primary milling and processing chemicals includes: sodium cyanide, calcium oxide (lime), flocculants, carbon, iron slugs (Fe), ethanol, and sodium hypochlorite.
3. Chemical usage per ton of ore is estimated as follows:

<u>Chemical</u>	<u>1 ton/hour</u>	<u>24 ton/day</u>	<u>100 ton/day</u>
Sodium Cyanide	0.28 lb	6.72 lbs	28 lbs
Calcium Oxide (lime)	8.67 lbs	2.08 lbs	867 lbs
Flocculants (minor)	0.06 lb	1.44 lbs	6 lbs
Carbon (minor)	0.02 lb	0.48 lb	2 lbs
Iron slugs (Fe) (minor)	0.02 lb	0.48 lb	2 lbs

Ethanol (minor)	0.02 lb	0.48 lb	2 lbs
Sodium Hypochlorite	TBD	TBD	TBD

4. Diesel storage at the Facility shall not exceed 1320 gallons at any point in time. All diesel and gasoline fuels shall be stored in above-ground tanks near the impoundment as shown in Figure 4 of the Application. The fuel tanks shall be located inside a bermed, HDPE (or similar) lined containment area. The containment area shall be fenced, gated, and maintained at all times. Maintenance means any and all activities necessary to prevent the discharges of fuel, chemicals or water, to soil, surface waters or groundwaters. Maintenance must include removal, treatment and appropriate disposal of spilled product or waste water.
- D. DMM shall ensure that construction, operation and maintenance of the Facility proceed according to the approved design plans and specifications and the approved operating and closure plans in accordance with this permit.
 - E. DMM shall furnish to the Director, within a reasonable time, any information including copies of records required by the permit or other applicable rules which the Director may reasonably require to determine whether cause exists for modifying or revoking the permit or to determine compliance with the permit or other applicable rules.
 - F. After DMM has completed construction, seasonal and/or temporary closure activities, and at least seven days prior to DMM starting or restarting operations, DMM must provide the Department with notification that operations will commence. DMM must provide this notification in written form such that the Director may inspect all constructions, seasonal or temporary closure conditions and pre-operational conditions per IDAPA 58.01.13.500.05.

VII. WATER MANAGEMENT PLAN

- A. The permitted activities shall affect less than ten total acres of previously undisturbed (by mining) land. This new disturbance will provide for access and haul roads, mine area(s), waste rock storage site, and the Facility area. Water use requirements are estimated at less than 25 gallons per minute (gpm) for the Facility.
- B. The Water Management Plan includes the following best management practices (BMPs):
 - 1. Storm water drainage from the mine, access roads, parking lots, office and housing facilities, and any other secondary facilities must be routed around the primary ore processing facilities, which include the Milling and Processing Building, tailings impoundment, Portable Crusher, and Ore Stockpile. Storm water may not become an integral factor in the water balance by entering or otherwise being diverted into the tailings impoundment, where it may come into contact with tailings and/or process wastewater.
 - 2. Water management systems including BMP's must be accurately depicted on the final facility "As-Built Plans and Specifications". Pursuant to the Ore Processing Rules, IDAPA 58.01.13.500.03, and the Idaho Environmental Protection and Health Act (EPHA) Idaho Code §§ 39-118A, an Idaho Registered Professional Engineer shall, within 30 days of construction completion, prepare, sign and stamp "As-Built Plans and Specifications" These "As-Built Plans and Specifications" and/or the construction report shall be submitted to the Department and shall be subject to Department review, comments and approvals.
 - 3. A roofed area shall cover the self-contained processing operations facility to limit the addition of precipitation to the overall water balance of the ore processing and mill tailings impoundment systems.
 - 4. The impoundment shall be constructed and maintained to contain at least the maximum operating water balance, plus a 100-year, 24-hour storm event plus two feet of free board regardless of the current operating or closure status.

VIII. SURFACE / GROUND WATER QUALITY MONITORING

- A. Prior to beginning operations DMM must reestablish and maintain seven surface water quality sampling sites in the Wood Creek drainage (northern area) and Blacks Creek drainage (southern area) as seen in Figure 7 "Map of Water Quality Monitoring Stations", in the Application. The sites are located both up gradient and down gradient from the Facility.
- B. Prior to beginning operations DMM must re-establish and maintain six ground water quality monitoring sites located around the mining and ore processing facilities as seen in Figure 7 "Map of Water Monitoring Stations", in the Application. All ground water monitoring sites must be sufficiently developed to provide ground water samples throughout the calendar year. Well logs shall be submitted to the Department for any ground water wells which must be re-drilled. If ground water wells must be abandoned and a replacement well drilled, the abandoned well must be closed consistent with rules administered by the Idaho Department of Water Resources, and new logs must be resubmitted to the Department for record keeping.
- C. Surface water quality samples must, at a minimum, be collected in April, prior to peak flows on adjacent streams, in June after peak flows on adjacent streams, and in late July before most of the adjacent streams dry up. When flows persist at surface water monitoring stations until November, surface water samples and field metrics must be collected at monitoring stations where the flows persist.
- D. Immediately following the re-establishment of the six ground water monitoring locations, each location shall be sampled according to standardized methods. All ground water wells shall purge at least three well casing volumes prior to sampling. All 6 ground water sampling locations must be sampled at least one week prior to beginning of operations at the Facility and monthly thereafter until final closure of operations and reclamation of the Facility are complete.
- E. The following include the prescribed preservation and analytes for required samples collected from surface and ground water adjacent to the Facility
 - 1. Sodium Hydroxide will be used to preserve samples analyzed for
 - a. Total Cyanide
 - b. Weak Acid Dissociable Cyanide
 - c. Free Cyanide (onsite)
 - 2. Sulfuric Acid will be used to preserved samples analyzed for
 - a. Nitrate

3. Nitric-Acid will be used to preserve samples analyzed for
 - a. Arsenic
 - b. Cadmium
 - c. Copper
 - d. Iron
 - e. Manganese
 - f. Silver
4. Non-Preserved samples will be analyzed for
 - a. pH (onsite)
 - b. Specific Conductance (onsite)
 - c. Chloride
 - d. Sulfate
 - e. Total Suspended Solids (onsite)
 - f. Alkalinity

All water samples will be cooled to – 4 degrees Centigrade for transportation.

- F. Surface water quality samples must be analyzed for dissolved metals, whereas ground water quality samples must be analyzed for total metals.
- G. All water quality sample analyzes shall be conducted using Standard Methods, 16th Edition, as approved by the EPA. On-site cyanide analyses shall be conducted using approved colorimetric procedures, 335.3 EPA. Detection limits for these analytes must be consistent with those approved EPA procedures.
- H. Water level measurements shall be collected at each ground water monitoring location using an electronic well probe. Measurements shall be recorded from the top of the Polyvinylchloride (PVC) or metal casing. Reading shall be recorded in feet and tenths of feet on standard field log sheets.
- I. All surface and ground water quality sample field measurements shall include temperature, pH, electrical conductivity, and flow.
- J. Surface water quality grab samples must be filtered in the field for dissolved metals and each sample container must be immediately preserved for its respective analytes.
- K. Ground water quality samples shall be collected by air-lifting, pumping, or bailing. At least three casing volumes shall be evacuated prior to collecting each ground water sample.
- L. Samples must be collected and preserved and delivered to an EPA-approved laboratory for analysis. Results must be submitted to the Department within 20 days of receipt of the results.

M. The following water quality criteria applies to this permit.

	Idaho GW Standard IDAPA 58.01.11 Standards in Total	Idaho Surface Water Standards IDAPA 58.01.02			
		Surface water Criteria Standards in "dissolved" unless noted		Human Health for Consumption of:	
		Acute (CMC)	Chronic (CCC)	Water + Organisms	Organisms Only
Arsenic	50	360	190	50	50
Cadmium	5	0.82	0.37		
Chloride	250,000				
Copper	1300	4.6	3.5		
WAD Cyanide	200	22	5.2	700	220000
Iron	300				
Manganese	50				
Nitrate and Nitrite (both as N)	10,000				
Silver	100	0.32			
Sulfate	250,000				
TDS (total dissolved solids)	500,000				

Criteria is Presented in ug/L

(Yellow =secondary MCL)

(Grey =hardness dependent, standard shown is for a hardness value of 25 mg/L)

- N. DMM shall maintain water quality data on a computer database. DMM must provide the Department with ready access to this data and any statistical evaluation of trends and parameters of interest. DMM shall retain all original records and results of operational monitoring activities until permanent closure of the Facility pursuant to this permit is completed.
- O. All environmental monitoring data shall be compiled, evaluated and submitted in an annual report to the Department and the Idaho Department of Lands no later than March 1 of each calendar year.
- P. In the event of an accidental spill, the Department may require an increase in the intensity of surface and ground water monitoring programs in terms of frequency

and parameters. Recommendations for this level of increase may be submitted by DMM to the Department as a provision to DMM's Response Plan and reporting requirements. DMM should, however, immediately begin monitoring based on its proposal pending approval by the Department of the final monitoring plan for the incident.

IX. TRANSPORTATION AND SPILL RESPONSE PLAN

- A. DMM shall develop and implement a Transportation and Spill Response Plan (Plan). The Plan must be formalized and submitted for Department review, and if appropriate, approval. Submission and approval of this plan must occur prior to transportation of any chemicals, petrochemicals and maintenance fluids to the Centennial Mine and Mill Facility.
- B. All chemicals, including petrochemicals and maintenance fluids, must be provided for in the Plan. These materials include sodium cyanide, mercury, hydrochloric acid, sodium hydroxide, and hydrogen peroxide. The Plan must be kept current to provide for changes in chemical inventories including types and volumes of chemicals present at the Facility.
- C. DMM must ensure that all transporters of fuel and/or hazardous materials are familiar with the contents of the Plan.
- D. In regards to supply contracts, DMM must stipulate that transport vehicles shall be inspected for leakage before entering and/or leaving the Facility. Precautions must be taken during material transfer to prevent spillage or accidental ignition.
- E. DMM shall be available to assist federal, state and/or local emergency efforts in response to spills of materials and supplies for operations at the Facility.
- F. DMM shall have an Emergency Response Coordinator who is trained in spill containment, neutralization, clean-up, and first aid techniques.
- G. DMM shall ensure compliance with the following measures in regards to transport of oil / petroleum products and hazardous materials.
 - 1. Safety inspections of all transport vehicles before travel to the Facility
 - 2. Fuel shipments shall be in authorized supply trucks
 - 3. Hazardous liquids shall be transported in containers meeting Department of Transportation specifications
 - 4. All transport of fuels, deleterious and/or hazardous materials to the Facility shall occur in daylight hours
 - 5. When potential inclement weather or road conditions are probable, haulers must contact the Facility to determine if conditions are unsuitable for transportation and/or delivery of fuel or deleterious and/or hazardous materials

6. No transportation of fuel or deleterious and/or hazardous materials shall occur when rural roads between Interstate Highway 84 and the Facility are snow-covered or icy
 7. No transportation of fuel or deleterious and/or hazardous materials may occur when rural roads between Interstate Highway 84 and the Facility exhibit washed-out conditions
 8. Trip delivery logs and spill plans shall be available upon request by the Department
 9. Maximum speed for vehicles traveling within the Facility is 30 miles per hour
 10. Heavy Truck Traffic Warning, Transportation Schedule and Truck Route information signs shall be placed along access routes to inform both the public and transporters as necessary to maintain safe multiple-use trafficking along the rural routes.
- H. A minimum inventory of spill response supplies must be kept at the Facility. This inventory must include the following: rolls, sheets, sweeps (oil absorbents), first aid supplies, protective rubber boots, eyewear, jackets, shovels, axes, fire extinguishers, Plug-n-Dike, posts, and hay bales.
- I. General spill response measures in the Plan shall include:
1. Safeguarding life and property
 2. Notification of the proper authorities
 3. Containment and clean-up of the spill
 4. Follow-up reporting
- J. Potential or Accidental Spill Response Strategy
1. DMM must develop and implement a Spill Response Strategy which shall be incorporated into the Plan.
 2. The Spill Response Strategy prescribes measures which must be in place to prevent spills of reagents and other materials used in the ore processing facilities. DMM employees at the Facility must be trained in the Strategy's implementation prior to the beginning of Facility operations.

3. All chemical, oil or fuel spill events must be responded to in accordance with the Plan and Spill Response Strategy.
4. If an unauthorized discharge occurs, DMM must do the following:
 - a. Notify the Department orally as soon as possible but no later than 24 hours from the time DMM knows or should reasonably know of any noncompliance which may endanger the public health or the environment.
 - b. The Department's contact in regards to notification under this subsection is:

Bruce Schuld
Mine Waste Projects Coordinator
1410 N. Hilton
Boise, Idaho 83706
Phone: 208-373-0554
Cell Phone: 208-841-8179
Fax: 208-373-0154 or in his absence;

Orville Green
Administrator
Waste Management and Remediation Division
1410 N. Hilton
Boise, Idaho 83706
Phone: 208-373-0148
Fax: 208-373-0154

- c. Notify the Department in writing within 5 working days from the date DMM knows or should reasonably know of any event which may be or which may result in a violation of the Ore Processing Rules or the Water Quality Standards. Such notification shall contain the following:
 - ii. The person(s) representing DMM as the point of contact for the incident and the contact information for such person(s);
 - ii. A description of the event and its cause. If the cause is unknown, steps taken to investigate and determine the cause;
 - iii. The name and quantity of the materials involved;

- iv. The period of the event including, to the extent reasonably possible, times and dates;
 - v. Measures taken to mitigate or eliminate the event and protect the public health; and
 - vi. Steps taken to prevent recurrence of the spill event.
- d. Notify the Department, in writing, of any conditions relating to a spill event which may result in a violation of any permit conditions.
- e. Notify the Department, in writing, within 5 working days from the time DMM knows or should reasonably know of material relevant facts not submitted or incorrect information submitted in a permit application or any report or notice to the Director or the Department.

X. ACCESS AND SECURITY

A. Access

Access to the Facility must only be via the existing private maintained dirt / gravel access road as seen on Figure 4 of the Application. Fencing must also be located around the Facility as depicted, which includes the tailings impoundment, chemical storage, and fuel containment areas. Access points must be gated at public roads. The Department shall be provided entry and access to the Facility as required under the EPHA, Idaho Code § 39-108.

B. Security

1. At no time may the Facility be left unattended while it is in operation or temporary / seasonal closure, unless all pertinent closure requirements have been met pursuant to this permit. The processing operation area must be fenced and locked at all times. Personnel who provided this security must be trained and capable of fully implementing the Plan and Spill Response Strategy.
2. The impoundment shall be fenced to restrict access by wildlife.

XI. SEASONAL AND TEMPORARY CLOSURE STRATEGY

- A. In the event DMM determines that it will cease mining and/or processing at the Facility for a period of more than six months, DMM must immediately (or no later than seven days prior) provide written notification to the Department that DMM intends to seasonally or temporarily close its operations. In such an event, DMM shall submit a detailed seasonal or temporary closure plan for the Director's approval per IDAPA 58.01.13.500.09. DMM may not seasonally or temporarily close its operations until the Department approves of those seasonal or temporary closure plans.
- B. DMM must ensure that the seasonal or temporary closure complies with the Department approved plan. The plan must, at a minimum, provide the following.
1. At no time will the Facility be left unattended while the Facility is in operation or temporary closure.
 2. No discharges of spent ore or treated process wastewater may occur from the impoundment or processing operation facilities.
 3. The impoundment shall be appropriately ballasted to prevent damage to the liner.
 4. The procedure for sudden unexpected shutdown and planned shutdown are identical and must include the following:
 - a. Notify the Department in writing of the intention to temporarily cease operations.
 - b. Submit to the Department for approval temporary closure plans.
 - c. The impoundment shall be designed to contain all solution inflow, the unexpected storm event, and a two-foot freeboard.
 - d. Prior to the planned shutdown, or as soon as possible after shutdown, ore processing systems and plumbing shall be flushed and decontaminated with all wash waters being appropriately neutralized prior to release to the impoundment. The wash waters shall meet the 0.2 mg/l WAD cyanide concentration threshold.
 - e. Following completion of active leaching or processing, all spent ore shall be washed and neutralized (0.2 mg/l WAD cyanide concentration threshold).

- f. Sufficient synthetic cover or liner (60 mil HDPE or comparable) shall be placed over the impoundment in order to limit precipitation or inflow during temporary closure.
- g. Appropriate drainage must be provided for the impoundment such that the impoundment berms and adjoining soils are not eroded by waters which accumulate inside of the impoundment.
- h. Adequate quantities of hydrogen peroxide and/or hypochlorite sufficient to neutralize any accidental spills or discharges shall be stored at the Facility.
- i. The impoundment liner shall be inspected weekly as well as immediately after all rain storm or runoff events to ensure total containment integrity is stable. The results of inspections, which indicate that the liner system has been damaged, or that the two (2) feet of free board requirement may be violated, must be immediately reported to the Department in writing.
- j. The system of PVC distribution pipes shall be routinely inspected for leaks of both process fluids or fuel.
- k. Adequate sorbents and oil spill cleanup materials and equipment shall be maintained at the Facility including containment booms, sorbent, berming material, and fire fighting equipment.
- l. All solid, deleterious and household hazardous wastes shall be removed and appropriately disposed of prior to temporary closure.
- m. DMM and the Department must complete a final inspection of the Facility prior to the Department's approval of seasonal or temporary closure. DMM must complete seasonal or temporary closure activities to the Department's satisfaction.

XII. PERMANENT CLOSURE

- A. DMM shall complete and submit a detailed Permanent Closure Plan within one year of the effective date of this permit.
- B. The Permanent Closure Plan must, at a minimum, provide details for the following:
 - 1. Disposal of treated process wastewater collected in the tailings impoundment, and desiccation of spent ore within the impoundment prior to capping.
 - 2. Covering the spent ore in the impoundment with dry lime.
 - 3. Cutting the HDPE liner on the berms, folding the liner over the top of the tailings in the impoundment and welding the ends to additional liner together, if necessary, on top of the tailings in the impoundment.
 - 4. Capping the Facility with approximately two feet of fill and one foot of top soil.
 - 5. Applying additional ground material in order to produce a final positive drainage gradient for revegetation using a Department-approved seed mix.
 - 6. Routing all final site drainage around the reclaimed impoundment at closure to maintain long-term integrity of the closed Facility.
 - 7. Placing large coarse durable rock and advisory signs over the impoundment that prevent recreational vehicle access, erosion, and excavations of the repository.
 - 8. Surveying, locating and recording the Facility by GPS such that future potential regrading or development activities do not threaten the physical integrity of the impoundment.
- C. All solid, deleterious and household hazardous materials shall be removed and appropriately disposed of prior to permanent closure.
- D. All trailers, equipment, buildings, plastic or metal drums and containers, trash and scrap metal used in mining or ore processing must be removed from the Facility. Concrete foundations may be broken up and buried in one Department-approved location at the Facility.

- E. DMM and the Department must complete a final inspection of the Facility prior to the Department's approval of permanent closure.
- F. Within 60 days of completing permanent closure activities, DMM must complete and submit, for Department approval, a Final Closure Report which addresses the following list of information as necessary to make a bond release determination by the Department.
 - 1. The necessary description or characterization of the source, release mechanisms and concentrations of contaminants named in this permit for surface and ground water quality monitoring which may continue to discharge from the Facility in violation of the Water Quality Standards and/or Groundwater Rule. This description or characterization must include the geochemical analysis of the spent ore and a discussion of the short and long-term leachability of the spent ore, including the mass balance equation of geochemical model used to predict long-term leaching of the spent ore.
 - 2. A description of the short and long-term water balance for the ore processing, water treatment and disposal systems. Discussion should include an evaluation of run-on/off, flows in/out, volumes and quality, outfall points (point sources), and non-point source runoff. Particularly for those areas shown in Figure 4 of the Application including but not limited to: the Milling and Ore Processing building and equipment, Assay Laboratory, Chemical Storage Building/Containers, Generator Building, Portable Crusher, Ore Stockpile, Mill Tailings Impoundment, Maintenance and Supplies Building, Office Building, domestic housing, and Housing Security Lights, water storage, and all monitoring wells.
 - 3. A discussion of the final configuration of the tailings impoundment and its operational / closure status, including what, if any, ongoing operation and maintenance (O&M) must continue and for how long. Ongoing O&M issues should include, but are not limited to, activities such as surface or ground water monitoring, BMPs maintenance and repair, cap / cover maintenance or repair, and revegetation. Such discussion should include the post closure O&M costs and requirements for source controls, BMPs, and best available technologies for waste disposal facilities.
 - 4. A discussion of source control systems that have been constructed/ implemented to eliminate short and long-term contaminant production and delivery of contaminants from those areas shown in Figure 4 of the Application including but not limited to: the Milling and Ore Processing building and equipment, Assay Laboratory, Chemical Storage Building/Containers, Generator Building, Portable Crusher, Ore Stockpile, Mill Tailings Impoundment, Maintenance and Supplies Building, Office

Building, domestic housing, and Housing Security Lights, water storage, and all monitoring wells.

5. A statistical analyses of the existing data to demonstrate that short and long-term water quality trends in surface and ground water shall continue to meet the Water Quality Standards and Ground Water Rule.
 6. If there are releases of contaminated water, which exceed water quality standards, evaluate and present a discussion of short and long-term human health and ecological risks associated with releases of the contaminated water.
 7. Specify who shall retain ownership and responsibility for the Facility, what legal mechanism transfers the ongoing site responsibilities to future site management, and how future site managers shall implement their responsibilities.
 8. Identify the potential future beneficial uses of the land, surface, and ground waters.
 9. Demonstrate that decommissioning and closure of the ore processing facilities complies with the Resource Conservation and Recovery Act, the Hazardous Waste Management Act, Idaho Code §§ 39-4401—39-4422, and the Solid Waste Management Act, and applicable rules. Items to address in this discussion include the following:
 - a. The location of all waste disposal areas for small quantities of regulated hazardous or solid waste resulting from decommissioning and demolition of ore processing facilities.
 - b. The type and amount of regulated waste disposed onsite in waste disposal facilities.
 - c. A description of how the waste disposal facilities were closed or otherwise managed.
- G. Department approval of the Permanent Closure Report shall be contingent upon the Department's ability to fully inspect and verify that all permanent closure activities have been performed to the Department's satisfaction and the conditions of this permit.

XIII. FINANCIAL ASSURANCE

- A. Prior to commencing cyanidation operations, DMM must establish financial assurance for permanent closure of the Facility meeting the requirements of the Ore Processing Rules as set forth in this permit. Financial Assurance is to ensure the performance of those required closure activities prescribed in the Permanent Closure Plan, but excludes the actual landscaping and revegetation activities otherwise included in the Reclamation Plans approved and administered by the Idaho Department of Lands.
- B. The amount of financial assurance shall be the sum of \$25,000.
- C. DMM may comply with the financial assurance requirements through one or more of the following options:
 - 1. A corporate surety bond evidenced by an indemnity agreement executed by or for DMM and a corporate surety, and payable to the Department. Corporate surety bonds shall be subject to the following conditions:
 - a. The Department shall obtain possession of the bond.
 - b. The bond shall be conditioned upon DMM's adequate performance of permanent closure under an approved closure plan.
 - c. The bond shall be on a form supplied by the Department.
 - d. The corporate surety shall be licensed to do business in the United States.
 - 2. A collateral bond evidenced by an indemnity agreement, executed by or for DMM and payable to the Department, pledging cash deposits, negotiable bonds of the United States, this State or political subdivisions of this State, or negotiable certificates of deposit of any bank doing business in the United States. Collateral bonds shall be subject to the following conditions:
 - a. The Department shall obtain possession, and upon receipt of such collateral bonds, deposit them with the State Treasurer to hold in trust for the purpose of bonding permanent closure.
 - b. The Department shall value collateral at current market value, not face value.

- c. Certificates of deposit shall be issued in the name of “principal or Idaho Department of Environmental Quality” in writing and upon the records of the bank issuing such certificates. Interest may be allowed to accrue and received upon release of the bond, or be paid to the principal no more than semiannually.
 - d. Banks issuing certificates of deposit shall waive all rights of set-off, or liens which it has or might have against such certificates.
 - e. All certificates of deposit shall be automatically renewable.
 - f. All certificates of deposit shall be of sufficient amount to ensure that the Department may liquidate such certificates, upon forfeiture, for the amount of the required bonding, including penalty for early withdrawal.
- 3. A corporate surety or collateral bond payable to another state agency and the Department, or the federal government, and meeting the applicable bonding requirements of these rules.
- 4. One or more insurance policies issued under the following conditions:
 - a. DMM shall submit a certificate of insurance to the Department.
 - b. The policy shall be issued by a company licensed to do business in the United States.
 - c. The policy shall guarantee the amount determined under the Ore Processing Rules, IDAPA 58.01.13.650.02 to the Department for the performance of permanent closure if DMM fails to perform permanent closure under an approved plan.
 - d. Termination, cancellation or nonrenewal of the policy may occur only if the Department receives 90 days notice from the insurance company, and the Department consents or the policy premium is not paid by DMM. Nonpayment of the premium constitutes a violation of the provisions of this section by DMM. The Department shall consent to termination, cancellation or nonrenewal if DMM substitutes alternative financial surety under this section, or completes permanent closure guaranteed by the policy under an approved plan.

5. A closure trust fund which conforms to the following conditions:
 - a. DMM shall submit a certificate of trustee's acknowledgment and a signed duplicate trust agreement to the Department.
 - b. The trust agreement shall guarantee payments by the trustee at the direction of the Department to implement an approved permanent closure plan if DMM fails to adequately perform permanent closure under such a plan.
 - c. The trustee shall have authority to act as such and be regulated by a state or federal agency.
 - d. DMM shall deposit cash in the full amount determined under Subsection 650.02 of the Ore Processing Rules prior to commencing cyanidation operations.
 - e. The trust agreement shall terminate if DMM substitutes alternative financial surety, or DMM completes permanent closure guaranteed by the trust fund under an approved plan.

D. Cancellation And Replacement Of Bonds.

1. Any surety cancelling a bond shall give the Department and the bonded principal at least 90 days notice prior to cancellation of an agreement. The Department shall not release a surety from liability under existing bonds until DMM has submitted to the Department an acceptable replacement bond or other form of financial assurance under these rules.
2. If a surety cancels a bond or fails to maintain a valid license to do business in the United States, DMM shall, within 45 days of notice from the Department, substitute a sufficient surety. A replacement bond or other financial assurance shall cover any liability accrued against the bonded principal at the facility in addition to the amount determined under Subsection 650.02 of the Ore Processing Rules. If DMM fails to secure a replacement bond or other alternative financial assurance under these rules, DMM shall cease operations at the facility covered by the bond until sufficient financial assurance is filed with the Department.

E. Financial assurance, or a portion thereof, required under these rules may be released as follows:

1. If at any time the value of a bond, insurance or trust is greater than the total amount of financial assurance required under Subsection 650.02 of the Ore Processing Rules, DMM may submit a written request to the

Department for release of the amount in excess of the amount required under Subsection 650.02.

2. If DMM substitutes alternative financial assurance under these rules for all or part of a bond, insurance or trust, DMM may submit a written request to the Department for release of the amount in excess of the financial assurance required under Subsection 650.02.
 3. Upon completion of permanent closure in accordance with an approved plan, DMM may request release from financial assurance by the Department. If the Department determines that permanent closure is in accordance with an approved plan financial assurance shall be released. If the Department determines that a portion of permanent closure has been satisfactorily completed the Department may proportionately reduce the amount of financial assurance required and release the balance.
 4. Within 30 days after receiving a request from DMM for release of a bond, insurance or trust, or any portion thereof, the Department shall either order release or provide DMM with a detailed written statement of reasons why financial assurance will not be released.
- F. In the event the amount of financial surety is insufficient to implement an approved permanent closure plan, the Department may commence legal action against DMM to recover the amount necessary to implement permanent closure under an approved plan and the Ore Processing Rules.

XIV. PERMIT MODIFICATION

- A. Causes for permit modification are:
 - 1. A material change or material expansion in the facility operation, design or closure plan.
 - 2. Natural phenomena substantially different from those anticipated in the original permit.
- B. Requests for modification from the permittee shall include:
 - 1. A written description of the modification(s);
 - 2. Data supporting the modification request;
 - 3. Causes and anticipated effects of the modification.
- C. If the Director determines that cause exists for permit modification, the Director shall notify the permittee in writing and request information necessary for the Director to modify the permit.
- D. Permit modifications shall follow the application processing, public involvement, and administrative appeal procedures of the Ore Processing Rules.

XV. TRANSFER OF PERMITS

A permit may be automatically transferred to a new permittee if such permittee provides written notice to the Director containing a specific date for transfer of permit responsibility, coverage, and liability between the old and new permittees, no later than ten days after the date of closure.

XVI. PERMIT REVOCATION

- A. A material violation of this permit or the Ore Processing Rules may be grounds for the Director to revoke a permit. A violation that is shown to have occurred as the result of an unforeseeable act of God despite DMM's reasonable efforts to comply with all applicable legal requirements shall not be grounds for revocation.
- B. If the Director decides to revoke a permit, she shall issue a notice of intent which shall become final within 35 days of service upon DMM, unless DMM requests in writing an administrative hearing. The hearing shall be conducted in accordance with IDAPA 58.01.23, Rules of Administrative Procedure Before the Board of Environmental Quality.

XVII. VIOLATIONS

- A. Failure by DMM to comply with the provisions of the Ore Processing Rules or with any permit condition shall be deemed a violation.
- B. It shall be a violation for any person to knowingly make a false statement, representation, or certification in any application, registration, report, document, or record developed, maintained, or submitted pursuant to the Ore Processing Rules or the conditions of a permit.
- C. Any unauthorized discharge shall be a violation.